Rethinking society for the 21st century: developing a science and technology studies perspective

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Rethinking Society for the 21th Century: Developing a Science and Technology Studies Perspective

by Johan Schot | Jun 22, 2016 | Blog | 0 comments

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The role of science and technology in social progress will be drawn out as a special cross-cutting theme in the final '*Rethinking Society for the 21st century*' report. Uniquely, this theme has been subject to special co-ordination amongst report contributors, led by Helga Nowotny and Johan Schot and co-ordinated from SPRU – Science Policy Research Unit at the University of Sussex. In January of this year Science, Technology and Society (STS) authors met at the Volkswagenstiftung in Herrenhausen, Hannover to reflect on chapter work so far, and consider emergent themes. Following on from that workshop, in this blog we reflect on five perspectives on science, technology and innovation which are deeply implicated not only with social progress, but how we frame and assess progress in the first place. These perspectives will be embedded directly in a large number of the report chapters

1. The social and technological worlds co-produce Social Progress

Social progress arises from both technological and social advances. STS brings sensitivity to relationships and alignments between the social and the technical. In the language of STS, this happens through observing and analyzing phenomena such as 'sociotechnical systems', 'practices', 'assemblages' and 'scripts'. In relation to social progress, STS scholars ask questions such as: which alignments of actors and institutions produce better outcomes in terms of societal issues such as poverty, the distribution of power and climate change? So for example, we might consider how regulatory innovations such as taxes on greenhouse gasses better 'align' societal goals of a future free from the ill-effects of climate change by subsidising the roll out of new technologies such as new renewable energy production. Indeed, STS might help us go further with our inquiry so that we can ask questions about how such alignments are produced, for which purpose and by whom? Accordingly, the focus should be on the socio-technical co-production of policy and institutions by a multitude of actors (not just those we usually consider traditional 'policy makers', through processes of co-evolution, and co-construction.

2. Many actors make innovative contributions in a myriad of ways

It follows that focus of assessment and analysis should be on the different types of practices, systems and alignments, and the diversity of actors involved in these. In this context social

progress might mean participation of more actors and more practices. This includes what STS calls *minority practices*. For example, we might consider practises in the Global South as well the North, or amongst communities on the margins of society. Furthermore, many different actors may be innovators; non-scientists, women and the oppressed. If we are to take seriously this latter point, then the focus of inquiry needs to shift towards technology in-use, which goes beyond individual use and into new contexts, a task championed by India's Honey Bee Network to give just one example. Often the focus of academic inquiry begins and ends with appropriation, i.e. something coming into the social setting or an innovation process that is appropriated. Yet old technology and the re-making of configurations should not be overlooked.

3. Social progress unfolds along multiple pathways

Rather than unfold in a single unidirectional path, there are multiple possible pathways of innovation and progress. Decisions over which pathway to take are therefore socio-political choices. STS allows reflection over alternative and multiple pathways towards social progress through investigating hidden alternatives, path dependences and notions of democracy. We see these issues emerge in controversies such as GM agriculture, where binary 'pro' or 'anti' positions mask both an informed debate on these technologies, but also discussion on alternative innovations too. Progress may be defined as having alternative solutions, and to incorporate minority practices. Here then we come back to definitions of social progress, which might mean flexibility for working on various pathways simultaneously, thus keeping them open and flexible.

4. Going beyond catching up in connecting the local and the global

Progress is often framed in terms of a 'global race' in which there are winners and laggards. However multiple pathways necessitate the need to go beyond framings and methods of 'diffusion' and 'catching up'. Rather, we advocate a circulation perspective in connecting the local and the global. Consider the building up of the global through the circulation of knowledge, and the distribution and appropriation of benefits of it. For example, an historic circulation perspective will consider the United Kingdom not as the epicentre of an 18th century industrial revolution which was diffused outwards, but rather a node in a wider network which dynamically appropriated benefits from other nodes. Social progress in this context might mean maximum local flexibility for local appropriation and fair distribution of benefits of circulation. Indeed, we might heuristically ask within given cases, "is there appropriation from the marginalized, by whom and for what?" Focus then should be on bringing together various scales and relations between them, the local and the global, rather than employing universal and harmonizing models.

5. Social progress is not given, and knowledge about it arises from social processes.

It should be clear from this discussion that STS scholars generally advocate plural understandings of progress, rather than interpreting progress in a unitary, and linear fashion. Practically this means looking for different and multiple expectations and imagined futures. When considering historic cases we might explore processes of choice and contingency and in representing progress, we need to be reflexive and responsible in how and why we select one

representation over another. In short knowledge arises from social choices and processes. There is no 'innocent' form of description, be it numbers, categories, definitions, visual representations, or the stories we tell. We need only consider the often privileged role of the economist in contemporary governance arrangements to see how different (epistemic) communities use different languages, and the disparate authority these may carry. Numbering for example is one dominant way which allows us to capture certain facets of progress, but qualitative representation is as deeply implicated in forms of closure as quantitative. Here STS may contribute a perspective on the conditions and contexts on which claims of description are based.

This final observation that knowledge arises from social processes has important implications for the work of IPSP authors. A strength of STS is in situating knowledge in the particular, in other words, accounting for context in explanation. By doing this, STS approaches reveal diverse knowledge communities, a point which builds on early perspectives that innovation or knowledge production may be done by many actors. Put simply, STS can make visible the daily and ordinary work that people are doing well in contributing to social progress. The flip side of social progress however are inequalities. It is in addressing inequalities that STS may have an even more vital role. The field of STS has made significant contributions to perspectives on power in relation to technology and innovation. These perspectives run through each of the five points we have made in this article where we discuss power in relation to knowledge, a topic neglected in many discussions of social progress. The value then of STS is in its ability to assess how certain knowledges and technologies (e.g. military innovation) have been carriers of different gradients and levels of power thus enabling greater social agency and epistemic justice in relation to knowledge. Thus STS is well placed to discuss inequalities which arise through asymmetries of power and furthermore capitalism, democracy and the structuring of society though which asymmetries may be addressed.

These perspectives will be discussed in a series of special events over the coming months. There we hope to open up this discussion, and emergent findings from the IPSP report chapters to various STS communities. We welcome feedback from you there, on Twitter (@ipsprogress and #ipspSTS), as well as in the comment section below this post.

SPECIAL CONFERENCE EVENTS

SHOT — Society for the History of Technology

Singapore, Friday June 24th, 10:00-12:00

Plenary session: A Critical Conversation about Science, Technology and Social Progress

Chair: Bruce Seely.

Participants: Johan Schot, Introduction to the IPSP and general STS approach; Suzanne Moon, Religions, Communities, Ideas and Practices; Itty Abraham, Violence, Wars, Peace and Security.

Commentator: Wen-Hua Kuo

EASST/4S

Barcelona , Wednesday August 31st

Plenary session: A Critical Conversation about Science, Technology, Innovation and Social Progress

Moderators: Fred Stewart and Ulrike Felt

Participants: Johan Schot, Introduction to the IPSP and the STS contribution; Eden Medina, Supranational Organizations and Technologies of Governance; Andy Stirling, Multiple Directions of Social Progress; Saurabh Arora, Social Progress a Compass

SPRU — Science Policy Research Unit 50th Anniversary Conference
7th – 9th September, Brighton, UK
Plenary session: A Critical Conversation about Social Progress
Chair: Judith Sutz
Participants: Johan Schot, Introduction to the IPSP; Sheila Jasanoff, Paradoxes of Democracy and the Rule of Law; Andy Stirling, Multiple Directions of Social Progress; Phil Scranton, The Future of Work

Follow-up session: Dialogue session about the work of the IPSP, with three more contributions: Saurabh Arora, Social Progress a Compass; Raphie Kaplinsky, Markets, Finance and Corporations: Does Capitalism has a Future; Judith Sutz, Inequality and Social Progress

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